

In the Claims:

In claim 13, line 1, following "motor of" delete "claim 11" and insert --claim 12--.

In claim 19, line 6, between "housing" and "having" insert --defining an aperture--.

Remarks

Responsive to the communication mailed February 16, 2000, Applicants provide the following remarks in an effort to correct the deficiencies cited by the examiner and to more particularly point out and distinctly claim the invention. Reconsideration and reexamination are respectfully requested.

The drawings were objected to as failing to comply with 37 CFR 1.83(a) because the drawings did not show the vent slots in the radially extended projection of the stator of claim 13. The Examiner's attention is directed to Fig. 2 and Fig. 5 where vent slots are shown and indicated by reference numeral 30.

The specification was objected to under 37 CFR 1.71 because the Examiner believes that the specification does not describe the vent slots in the radially extended projection of the stator. The Examiner's attention is respectfully drawn to page 9 lines 9-10 wherein said vent slots are disclosed as vent bores or vent slots 30.

In view of the foregoing, it is believed that the vent slots in the radially extended projection of the stator of claim 13 is

shown in the drawing; therefore, applicant does not believe that this feature should be canceled from this claim.

On page 3 of the Office Action, Claim 13 was rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention, at the time the application was filed. For clarification, applicants point out that the drawing shows the vent slots in the housing, and not in the stator core laminations. However, claim 13 has been amended so that it is now dependent on claim 12, making it clear that the radially extended projection is in the housing. This amendment has been made without adding new matter to the disclosure. For further clarification, the specification has been rewritten to clearly state that the radially extended projection of the housing, and not the stator core laminations, may contain optional vent slots.

Claim 25 was rejected under 35 U.S.C. 112, second paragraph, for reciting a limitation, "the aperture" in line 4, for which there was insufficient antecedent basis. As a result, claim 19 has been rewritten to provide antecedent basis for "said aperture".

Claims 19 to 22 stand rejected under 35 U.S.C. 102(b) as being anticipated by Bright et al. (U.S. Pat. No. 3,969,043).

Applicant respectfully traverses this rejection.

Bright discloses a housing assembly that is "hermetically sealed and filled as to be internally flooded with a dielectric coolant fluid..." (Column 2, line 26). This indicates that the enclosure/housing of Bright cannot be vented. Bright discloses a "submersible" pump/motor assembly.

In addition, Bright utilizes a "dielectric oil" (column 9, line 46), rather than the surrounding air (see claim 22) to cool the motor assembly.

Referring to the § 102 Claim 19 rejection:

Bright, as noted above, disclosed a different method of enclosing the motor. Actually, the Bright housing encloses both a pump and a motor assembly, not just a motor. And, as noted above, the enclosure is sealed so that cooling fluid will not leak out of the housing; thus, the housing cannot be vented to allow air into cool the motor.

Referring to the § 102 Claim 20 rejection:

As far as the shape of the housing is concerned, the Bright housing is "a generally hollow, box-like housing assembly" (column 4, line 10) made from joining two sections. The "motor cover" portion of the housing does not have a distinct radially extended projection, with optional vent slots (for cooling purposes), to encompass the stator/bobbin assembly of the motor.

Referring to the § 102 Claim 21 rejection:

The impeller disclosed in Bright is part of the "pump assembly" (see column 6 starting at line 3). Therefore, it is used to pump a process fluid; it is NOT used to draw air over the motor for cooling purposes.

Referring to the § 102 Claim 22 rejection:

Bright does not disclose an end cap, called a "volute plate," "which avoids contact with the impeller" (column 6, line 34). However, this end cap (volute plate) does not have vent slots to allow air into the assembly. In addition, it appears from the drawing that this volute plate is used to channel the process fluid in the pump. Additionally, this volute plate is not really an end cap because it is not part of the housing.

Claims 1 to 2, 4 to 8, 10 to 12, 14 to 16, 18 and 24 to 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. in view J.E. Baclawski (U.S. Pat. No. 3,243,619). Applicant respectfully traverses this rejection. For the reasons set forth above, Bright has a central deficiency. Combining Bright with Baclawski cannot cure the Bright deficiency.

Regarding the Baclawski Patent:

Baclawski teaches a method for enclosing a motor to protect the rotor from dirt and debris. Unlike the claimed invention, "the motor winding is exposed to the surrounding atmosphere for direct heat transfer..." (Column 1, line 70), whereas in the present invention, the windings are covered and cooled by air

drawn into the assembly.

One of the purposes behind the referenced invention motor housing is to focus the air brought into the assembly (via an impeller) onto the motor parts. The housing prevents the inlet air from dispersing which provides for more efficient cooling. Again, the Baclawski housing is used to protect the motor from dirt/debris. It is not designed or intended to allow air flow, generated by an impeller, to be channeled in and around the motor components. In fact, Baclawski does not mention or incorporate an impeller.

Regarding the Methany Patent:

Methany teaches a system to cool the electronic components of a motor drive, not the motor itself. ("The motor drive...includes a heat sink...transferring the heat generated by the motor drive to the air flow." column 2, line 62) In this invention, a fan draws air through a heat sink to cool the "electronic components [of the motor drive] mounted to the top side thereof" (column 5, line 15). The heat sink is "interposed between the variable speed motor and the variable speed motor drive..." (Column 5, line 40). The disclosure specifically indicates that the air/heat sink cooling system is not used to cool the motor itself as evidenced by the following passage: "It is an advantage of the present invention that the amount of heat permitted to flow from the case of the motor is minimized...the

heat sink directly contacts the case of the motor at only four (4) points." Thus, since the air flow generated is "directed at the finned cooling members of the heat sink" (column 5, line 9), and as noted above, contact between the heat sink and motor housing is kept to a minimum to "avoid absorbing heat from the motor into the heat sink" (column 6, line 49), it is quite clear that this invention teaches a cooling system designed for a solely different purpose, namely, to cool the motor drive and not the motor itself.

Therefore, it would not have been obvious at the time to modify Bright and Backlawski in view of Methany to cool the motor because Methany does not discuss cooling the motor; it discusses cooling the motor drive. It even mentions that in certain situations, "it may be necessary to direct the entire air flow at the heat sink in order to cool the electronic power components comprising the inverter drive." (Column 1, line 51) Hence, the Examiner is incorrect in stating that the induced air flow is "for the purpose of providing improved cooling of power electronic devices contained in the motor". Indeed, page 7 of the Office Action should read: --in the motor drive-- not "in the motor".

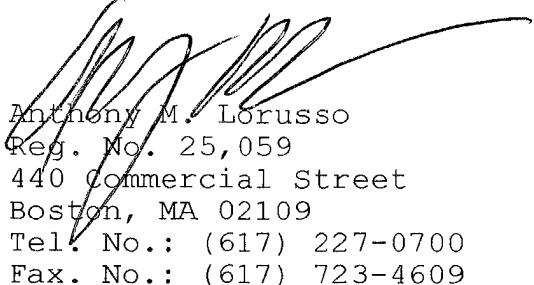
Lastly, the patent drawing review has been noted and applicant has sent the notice, along with the filed drawings, to a patent draftsman to prepare formal drawings. Accordingly,

formal drawings will be filed upon an indication of allowable subject matter.

In view of the foregoing, applicant respectfully requests reconsideration and allowance of this application.

Respectfully submitted,

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CERTIFICATION UNDER C.F.R. § 1.8

I hereby certify that this Amendment and Response and any document referred to as attached thereto is being deposited with the United States Postal Service on this 16th day of May, 2000, as postage pre-paid first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.


Susan E. Holloway